


The Los Angeles City
COMBINED HEAT & POWER (CHP) PROGRAM

Prepared by the Los Angeles Department of Water and Power (LADWP)

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CHP PLAN FOR LADWP

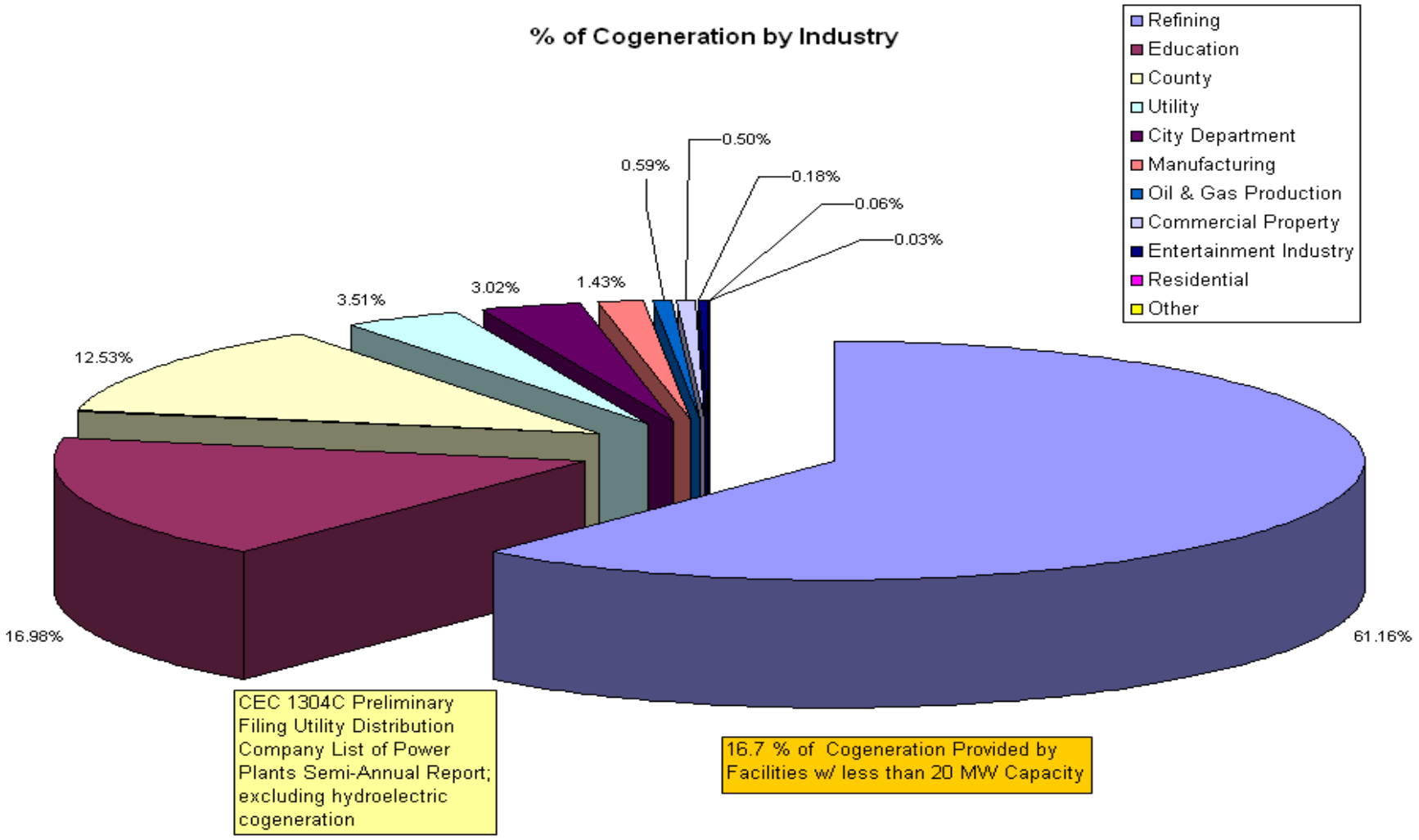
- **CHP Drivers for LADWP**
- **Action Plan**
  - ***Current conditions***
  - ***Barriers to expansion***
  - ***Penetration forecast***
- **Current and Future CHP Incentives**
  - ***Current incentives – Standard Energy Credit***
  - ***Future incentives***
- **Current FIT/Net Metering Incentives**
  - ***Interconnection Agreement and Customer Generation Rate***
- **Next Steps**

CHP DRIVERS FOR LADWP: Integrated Resource Plan (IRP)

Incorporate Combined Heat and Power (CHP) goals Into IRP for 2009:

- **Load forecasts**
- **Meet native load requirements**
- **Set operating and replacement reserves**
- **Specify energy efficiency and load reduction programs**
- **Achieve 20% renewable energy be 2010 and 40% by 2020**
- **Develop CHP target goals**
- **Reduce GHG emissions to 35% of 1990 levels by 2030**

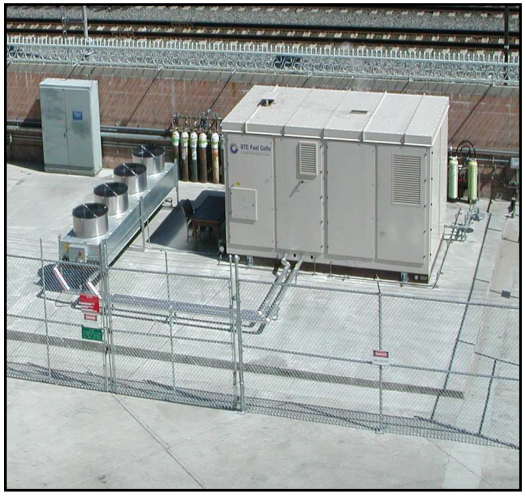
ACTION PLAN: 265 MW Existing Thermal Cogeneration



ACTION PLAN: Current Condition of Cogeneration Applications

CHP for Education Facilities

Micro Turbines for Manufacturing Facilities



Fuel Cells for City Facilities

Combustion Engines for Refineries

ACTION PLAN: Barriers to Expansion

- Diminishing industrial base with CHP potential
- Low rates for excess power purchases
- Reliability issues with smaller systems
- Utility replacement reserve requirements
- Green House Gas costs uncertainty
- Siting restriction by AQMD for new carbon-based generation

ACTION PLAN: Penetration Forecast

- **Current Renewable Portfolio Standard Projects that are Combined Heat & Power**
  - ***Scattergood-Hyperion Alternative Renewable Energy Project:***
    - **25 MW Combined Cycle Plant using digester gas as fuel**
    - **Process steam used by on-site Hyperion Sewage Treatment Plant**
  - ***Terminal Island Renewable Energy Project:***
    - **4 MW Fuel Cell Plant using methane gas as fuel derived from bio-solids injected into earth and utilizing excess heat in digesters**
- **New cogeneration plans**
  - ***Alternative Technologies Projects for Los Angeles Bureau of Sanitation conversion of waste to energy***

LADWP CURRENT CHP INCENTIVES : Standard Energy Credit

- **LADWP's "Standard Energy Credit" is the dollar amount per unit of energy that LADWP credits to its customers for excess energy they sell to LADWP**

- **The Standard Energy Credit is based on LADWP's estimated system marginal generation cost, and is publically posted at the beginning of each month for that month**

- **The Standard Energy Credit is designed to encourage customer-owned generation, shift demand from the electric grid, and provide accurate price signals to customers**

- **The Standard Energy Credit encourages Cogeneration, or Combined Heat and Power (CHP) customers, who have a need for heat (or steam), and then can sell excess power to LADWP**

Energy Credit (Cents/kWh) for FY 2009

34.5 kV		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
FY 2009	High	10.07	7.24	5.95	4.60	3.37	4.60	4.60	3.46	3.03	3.13	2.69	2.74
	Low	10.07	7.24	5.95	4.60	3.37	4.60	4.60	3.46	3.03	3.13	2.69	2.74
	Base	5.60	4.02	3.31	2.55	1.87	2.55	2.55	1.92	1.68	1.74	1.49	1.52

LADWP FUTURE CHP INCENTIVES

- **If the generation is renewable, LADWP will provide the renewable premium based on the energy market plus the Standard Energy Credit**

- **If the generation is not renewable, LADWP will purchase the excess energy at the Standard Energy Credit**

CURRENT FIT/NET METERING INCENTIVES: Interconnection Agreement and Customer Generation Rate (CG Rate)

- **Customer must purchase electric services from LADWP to be eligible for interconnection**
- **Customer submits completed Standard Offer Agreement for interconnection and qualification for the CG Rate**
- **Customers pay for all costs associated with time-of-use metering, interconnection, and safe grid-parallel operation of the generation facilities**
- **For cogeneration facilities greater than one megawatt, the customer is required to install remote monitoring equipment for LADWP**
- **Customer maintains adequate insurance on generating facilities**
- **Excess power reimbursements are made to the customer at end of billing period at the CG Rate**
- **The interconnection agreement has a three year term and requires approval by the General Manager initially and for renewal and extension**

NEXT STEPS: IRP Public Outreach

The IRP process will incorporate stakeholder feed back provided through the following activities:

- **Present preliminary IRP at the review meetings of the City Council Energy and Environment Committee**
- **Create e-mail box for public comment use on all outreach materials and website**
- **Conduct workshops with Neighborhood Council Committee meetings**
- **Brief the Southern California Association of Governments**
- **Brief large customers**
- **Brief labor organizations**
- **Review all inputs and make final recommendations to City Council**
- **Place approved IRP (incorporating CHP Goals) on LADWP website**